Medium-Mu Twin Triode

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC)	6.3	volts
Current	0.6 ± 6%	amp
Warm-up time (Average)	11	sec

Direct Interelectrode Capacitances (Approx.):[a]

	Unit No.1	*Unit No.2*	
Grid to plate	3.6	3.8	μμf
Grid to cathode and heater	2.4	2.4	μμf
Plate to cathode and heater	0.34	0.26	μμf
Plate of unit No.1 to plate of unit No.2	1		μμf

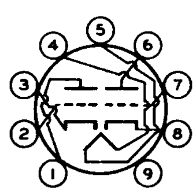
Characteristics, Class A_1 Amplifier (Each Unit):

Plate Voltage	90	250	volts
Grid Voltage	0	−8	volts
Amplification Factor	20	20	
Plate Resistance (Approx.)	6700	7700	ohms
Transconductance	3000	2600	μmhos
Plate Current	10	9	ma
Plate Current for grid volts = −12.5	–	1.3	ma
Grid Voltage (Approx.) for plate μa = 10	−7	−18	volts

Mechanical:

Operating Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9LP

Pin 1 – Plate of Unit No.2
Pin 2 – Grid of Unit No.2
Pin 3 – Cathode of Unit No.2
Pin 4 – Heater
Pin 5 – Heater



Pin 6 – Plate of Unit No.1
Pin 7 – Grid of Unit No.1
Pin 8 – Cathode of Unit No.1
Pin 9 – No Connection

AMPLIFIER — Class A_1

Values are for Each Unit

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	330	max.	volts
GRID VOLTAGE:			
Positive-bias value	0	max.	volts
CATHODE CURRENT	22	max.	ma
PLATE DISSIPATION:			
Either plate	4	max.	watts
Both plates (Both units operating)	5.7	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[b]	max.	volts

Typical Operation as Resistance-Coupled Amplifier:

See *RESISTANCE-COUPLED AMPLIFIER CHART No.29* at front of this Section

Maximum Circuit Values:

Grid-Circuit Resistance:			
For fixed-bias operation	1	max.	megohm

HORIZONTAL-DEFLECTION OSCILLATOR

Values are for Each Unit

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[c]

DC PLATE VOLTAGE	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE	660	max.	volts
CATHODE CURRENT:			
Peak	330	max.	ma
Average	22	max.	ma
PLATE DISSIPATION:			
Either plate	4	max.	watts
Both plates (Both units operating)	5.7	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[b]	max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance	2.2	max.	megohms

VERTICAL-DEFLECTION OSCILLATOR

Values are for Each Unit

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[c]

DC PLATE VOLTAGE	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE	440	max.	volts
CATHODE CURRENT:			
Peak	77	max.	ma
Average	22	max.	ma

PLATE DISSIPATION:			
Either plate.	4	max.	watts
Both plates (Both units operating). . .	5.7	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	200	max.	volts
Heater positive with respect to cathode.	200[b]	max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance	2.2	max.	megohms

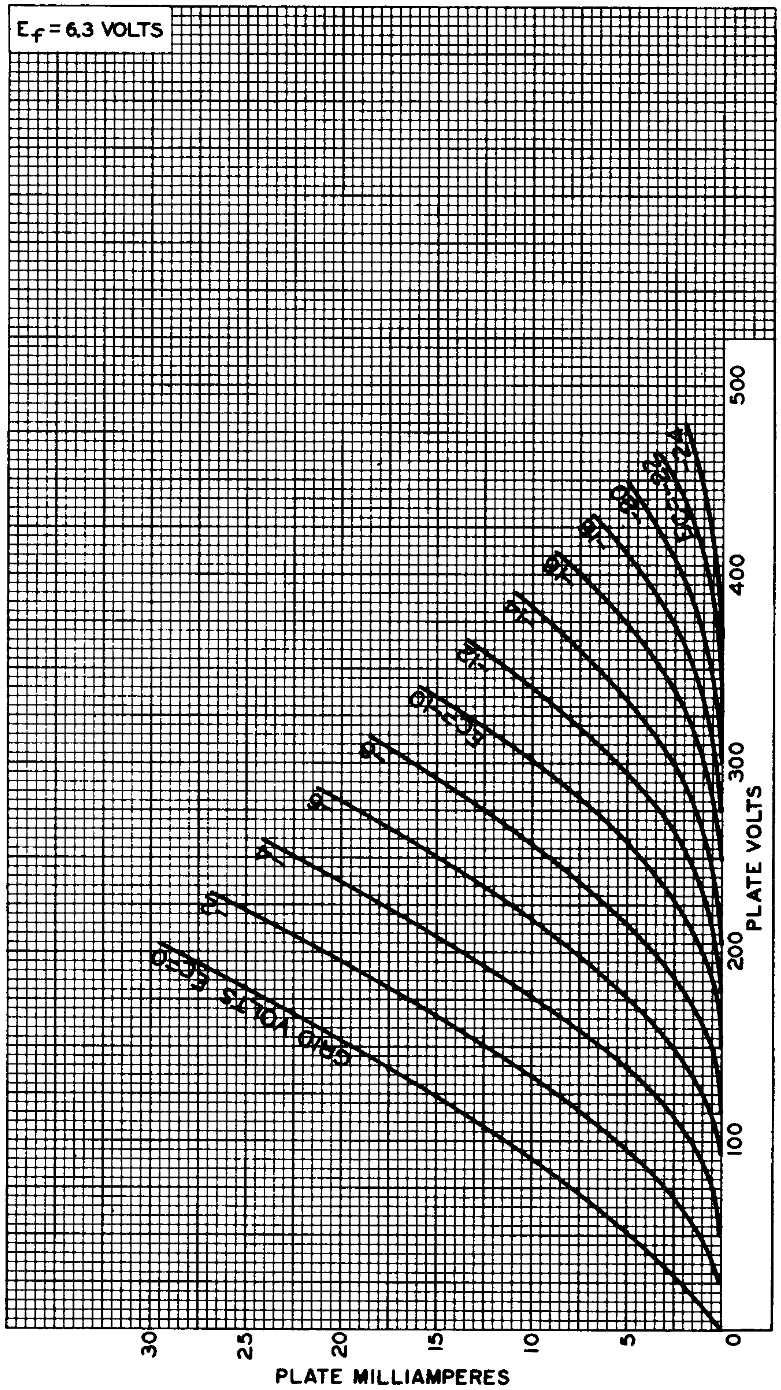
[a] Without external shield.

[b] The dc component must not exceed 100 volts.

[c] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

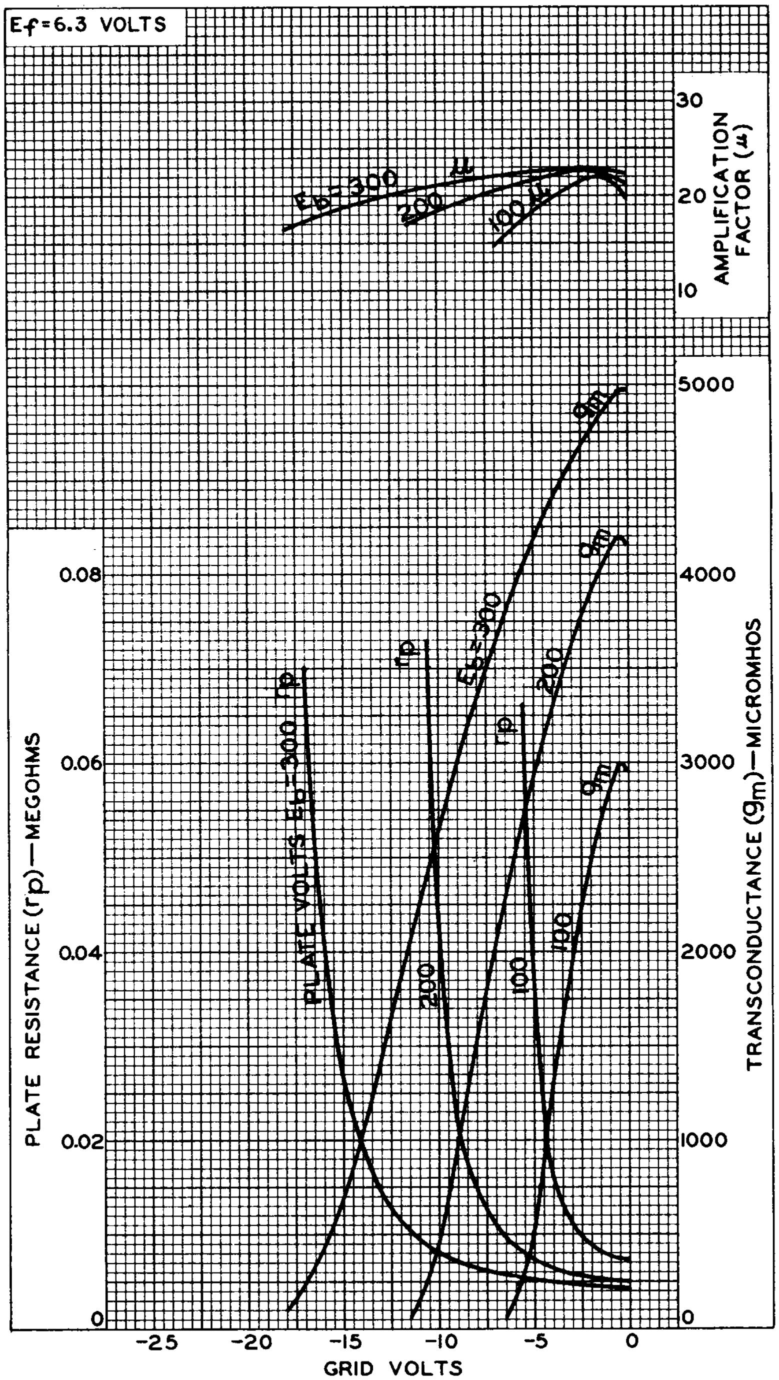
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AVERAGE PLATE CHARACTERISTICS
Each Unit



92CM-8442

AVERAGE CHARACTERISTICS
Each Unit



92CM-8441R1